CLAIMS

1. A process for fabricating a pressure vessel liner comprising a tubular trunk and two head plates for closing opposite end openings of the trunk by joining at least two liner components so shaped as to resemble the liner as divided into segments longitudinally thereof, the process including bringing two adjacent liner components into contact with each other, placing a probe of a friction agitation joining tool into the two liner components across the contact portions thereof, thereafter moving the probe relative to the two liner components while rotating the probe to thereby move the probe along the contact portions over the entire circumference thereof and join the two liner components to each other by friction agitation, the process being characterized in that assuming that the number of revolutions of the probe is R rpm and that the speed of joining of the two liner components is V mm/min, R/V is in the range of $2 \leq R/V \leq 12$.

2. A process for fabricating a pressure vessel liner according to claim 1 wherein R/V is in the range of $2 \leq R/V \leq 8$.

3. A process for fabricating a pressure vessel liner according to claim 1 wherein the contact portions of the two liner components are 0.5 to 20 mm in wall thickness.

4. A process for fabricating a pressure vessel liner according to claim 1 wherein the contact portions of the two liner components are joined by friction agitation through at least 360 degrees circumferentially thereof.

5. A process for fabricating a pressure vessel liner

according to claim 1 wherein all the liner components are made of aluminum.

6. A process for fabricating a pressure vessel liner according to claim 1 which comprises preparing a first liner component having a tubular peripheral wall having opposite end openings for providing the trunk and two second liner components each having a dome-shaped peripheral wall for providing the respective head plates, and joining the peripheral walls of the first liner component and the second liner components by friction agitation.

7. A process for fabricating a pressure vessel liner according to claim 6 wherein the first liner component is made from aluminum by extrusion, and the second liner components are made from aluminum by forging.

8. A pressure vessel liner fabricated by a process according to any one of claims 1 to 7.

9. A pressure vessel comprising a pressure vessel liner according to claim 8 and a fiber reinforced resin layer covering an outer peripheral surface of the liner.

10. A pressure vessel according to claim 9 wherein the fiber reinforced resin layer comprises a helically wound fiber layer formed by winding a reinforcing fiber around the trunk longitudinally thereof and partly around the head plates, a hoped fiber layer made by winding a reinforcing fiber around the trunk circumferentially thereof and a resin impregnating the fibers layers and cured.

11. A fuel cell system comprising a fuel hydrogen pressure vessel, a fuel cell and pressure piping for sending fuel hydrogen

gas from the pressure vessel to the fuel cell therethrough, the fuel hydrogen pressure vessel comprising a pressure vessel according to claim 9.

12. A fuel cell motor vehicle having installed therein a fuel cell system according to claim 11.

13. A cogeneration system comprising a fuel cell system according to claim 11.

14. A natural gas supply system comprising a natural gas pressure vessel and pressure piping for sending out natural gas from the pressure vessel therethrough, the natural gas pressure vessel comprising a pressure vessel according to claim 9.

15. A cogeneration system comprising a natural gas supply system according to claim 14, a generator and a generator derive device.

16. A natural gas motor vehicle comprising a natural gas supply system according to claim 14 and an engine for use with natural gas as a fuel.

17. An oxygen gas supply system comprising an oxygen pressure vessel and pressure piping for sending out oxygen gas from the pressure vessel therethrough, the oxygen pressure vessel comprising a pressure vessel according to claim 9.